

REMARKS

As of the 13 June 2008 *Office Action*, Claims 15-27 are pending in the Application. In the *Office Action*, the Examiner rejects all pending claims. Applicant thanks the Examiner with appreciation for the careful consideration and examination given to the Application. By this *Response*, Applicant amends certain claims to clarify some of the currently claimed embodiments. No new matter is believed introduced in this submission as the *Specification* fully supports the clarifying amendments.

Applicant submits this *Response* solely to facilitate prosecution. As such, Applicants reserve the right to present new or additional claims in this Application that have similar or broader scope as originally filed. Applicant also reserves the right to present additional claims in a later-filed continuation application that have similar or broader scope as originally filed. Accordingly, any amendment, argument, or claim cancellation is not to be construed as abandonment or disclaimer of subject matter.

After entry of this *Response*, Claims 15-27 are pending in the Application. Applicant respectfully asserts that the pending claims are in condition for allowance over the references of record, and respectfully requests reconsideration of the claims in light of this submission. Applicant, accordingly, believes that the Application is allowable for the following reasons.

I. Claim Rejections under 35 U.S.C. §112 2nd paragraph

Claims 23-27 are rejected under 35 U.S.C. §112 2nd paragraph as being indefinite because Claim 23 recites a second communication protocol, but does not recite a first communication protocol. Applicant respectfully submits that the amendments to the Claims alleviate this deficiency and requests withdrawal of the objection.

II. Overview of the Rejections under 35 U.S.C. §103

Claims 15-26 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,124,806 to Cunningham et al. ("Cunningham") in view of Elizabeth M. Royer, "A Review of Current Routing Protocols for Ad Hoc Mobile Wireless Networks," IEEE Personal Communications, April 1999 ("Royer") and U.S. Patent No. 5,251,205 to Callon et al. ("Callon"). Claim 27 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Cunningham in view of Royer and Callon in further view of Jil A. Westcott, "Issues in Distributed Routing for Mobile Packet Radio Networks", IEEE, 1982 ("Jil").

a. Claim 15 Is Patentable Over The Cited References

Claim 15 recites several features that distinguish the claimed invention from the cited references. A fundamental difference between the claimed invention and Cunningham, the primary reference cited by the Examiner, relates to the types of networks defined by the communication devices. In accordance with the claimed invention, the communication devices are capable of communication with each other and site controllers. The communication devices are capable of receiving, transmitting, and relaying information. Therefore the second communication network is formed by a web of paths between the communication devices. In contrast, Cunningham's sensor interface modules (SIMs), equated by the Examiner to the claimed communication devices, are only capable of transmitting information. Fig. 20 illustrates that the circuitry of the SIMs is designed only to transmit data to a data collection module (DCM), equated by the Examiner to a claimed site controller. (Cunningham, Col. 13, Lns. 1-26). Clearly, Cunningham's SIMs are not capable of communicating with each other. Consequently, Cunningham's second network is merely a series of single transmission paths between each SIM and the DCM.

These differences in the networks lead to several distinctions between the claimed invention and Cunningham's system. Claim 15 recites that the remote devices are "monitored and controlled by the host computer." Cunningham's host module (HM), equated by the Examiner to the claimed host computer, does not communicate with or control the SIMs. Indeed, the SIMs are not capable of receiving a signal from the HM. Consequently, Cunningham does not disclose communication devices "monitored and controlled by the host computer" as recited in Claim 15.

Additionally, Claim 15 recites "sending a path determination message to a target communication device from a site controller through the second communication network prompting the target communication device to retransmit the path determination message to the site controller through the second communication network." Clearly, Cunningham does not disclose sending information to the SIMs because they are incapable of receiving information. The Examiner asserts that it would have been obvious to add this capability to Cunningham's system given the disclosure of Royer, which outlines a dynamic source routing technique for mobile nodes.

The Examiner's rationale for such a modification is unfounded for several reasons. First, the Examiner fails to provide a reason for modifying Cunningham's SIMs to include hardware for receiving a route request packet as disclosed in Royer. Second, the Examiner fails to provide a compelling reason why it would be beneficial to broadcast a route request packet on Cunningham's network. On page 6 of the *Office Action*, the Examiner states that it would have been obvious to modify Cunningham's network in view of Royer to increase flexibility and mobility of the networked system. Cunningham's network, however, is a static system. The SIMs are associated with gas, electric, and water meters firmly disposed in the ground or attached to a home. (Cunningham, Col. 7, Lns. 32-34). Clearly, there is no need to increase the mobility of Cunningham's SIMs.

Claim 15 also recites "generating a network map of the down-stream communication paths from the site controller to the target communication device and up-stream communication paths from the target communication device to the site controller from the unique addresses of the communication devices that retransmitted the path determination message from the site controller to the target communication device or from the target communication device to the site controller". The Examiner asserts that it would have been obvious to determine a map of Cunningham's network in view of Royer and Callon to determine the best path based on the current network state. Again, this rationale would only apply if Cunningham's network was mobile. A map of Cunningham's network, however, is already known because each of the nodes is static. Therefore, Royer's route request packet is entirely unnecessary to determine a map of Cunningham's network.

Furthermore, Royer does not teach a method of determining a network map as recited in Claim 15. Royer discloses a method of determining routing paths from a source to a destination. Royer does not disclose determining a map of the entire network. Indeed, a feature of Royer's dynamic source routing prevents an accurate map of the network from being generated. Royer states that "a mobile only forwards the route request if the request has not yet been seen by the mobile and if the mobile's address does not already appear in the route record." (Royer, Pg. 49). Such a limitation of retransmissions is not present in the claimed method. Only certain paths are identified by Royer's method. For example, potential paths N1-N3-N4-N5 and N1-N3-N4-N6-N7 are not conveyed to the destination N8, hence these options are not relayed back to the source as possible paths to the destination. (See Royer Fig. 4). Therefore, Royer's method does not

generate a map of the network as recited in Claim 15. Applicant respectfully submits that Claim 15 is patentable over the cited references for at least these reasons.

b. Claim 16 Is Patentable Over The Cited References

Claim 16 recites features not disclosed in the cited references. In particular, Claim 16 recites that “each of the plurality of communication devices are wireless communication devices, the plurality of wireless communication devices being disposed throughout a geographic area such that the antenna patterns associated with the plurality of wireless communication devices overlap to create a coverage area that defines the second communication network.” Cunningham fails to disclose that the transmission ranges of the SIMs overlap. None of the portions of Cunningham cited by the Examiner disclose this feature. Furthermore, as discussed above, Cunningham’s SIMs are incapable of communication with each other. Consequently, even if the range of the SIMs did overlap, they would not define a second communication network because communication between the SIMs is not possible. Therefore, the cited references fail to disclose the features of the claimed invention recited in Claim 16. Applicant respectfully submits that for at least these reasons Claim 16 is patentable over the cited references. Claim 16 is also believed to be patentable over the cited references due to its dependence upon Claim 15.

c. Claim 20 Is Patentable Over The Cited References

Claim 20 recites features not disclosed in the cited references. In particular, Claim 16 recites “providing a command message to the second communication network for delivery to the one of the plurality of remote devices based on one of the communication paths associated with the communication device corresponding to the one of the plurality of remote devices.” None of the portions of Cunningham cited by the Examiner disclose this feature. As discussed above, Cunningham’s SIMs are incapable of receiving communications. Further, the SIMs are incapable of conveying information to the meters that the SIMs are coupled too. Likewise, the meters are incapable of receiving a communication from the SIMs. Cunningham simply does not disclose communication from the DCM or HM to the SIMs and meters. Therefore, the cited references fail to disclose the features of the claimed invention recited in Claim 20. Applicant respectfully submits that for at least these reasons Claim 16 is patentable over the cited references. Claim 20 is also believed to be patentable over the cited references due to its dependence upon Claim 15.

d. Claims 17-19, 21-22 & 23-27 Are Patentable Over The Cited References

Applicant respectfully submits that Claim 23 is patentable over the cited references for substantially the same reasons as discussed above with regard to Claim 15. Additionally, Claims 17-19, 21-22, and 23-27 are patentable over the cited references due to their dependence upon Claims 15 and 23, and for further features defined therein.

III. Fees

This *Response* is filed within three months of the *Office Action* dated 13 June 2008, thus no extension of time fees are believed due. This *Response* does not introduce additional claims, thus no claim fees are believed due. Nonetheless, Applicant expressly authorizes the Commissioner to charge deposit account No. 20-1507 for any fees deemed due.

CONCLUSION

Applicant respectfully submits that after entry of this *Response* the Application is fully in condition for allowance. The Examiner is invited to contact the undersigned should any other issues remain prior to the allowance of this Application. Early and favorable action is respectfully requested.

Respectfully submitted,

TROUTMAN SANDERS LLP

/Filip A. Kowalewski 60,026/

Filip A. Kowalewski

USPTO Reg. No. 60,026

TROUTMAN SANDERS LLP
Bank of America Plaza
600 Peachtree Street, N.E., Suite 5200
Atlanta, Georgia 30308-2216
United States
Phone: 404.885.3487
Fax: 404.962.6654

DATE: 15 September 2008